



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,255	05/10/2005	Yosuke Shinomoto	1033413-000007	4512

21839 7590 11/25/2008  
BUCHANAN, INGERSOLL & ROONEY PC  
POST OFFICE BOX 1404  
ALEXANDRIA, VA 22313-1404

EXAMINER
----------

GLASS, ERICK DAVID

ART UNIT	PAPER NUMBER
----------	--------------

2837

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

11/25/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/534,255	<b>Applicant(s)</b> SHINOMOTO ET AL.	
	<b>Examiner</b> Erick Glass	<b>Art Unit</b> 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-11, 13, 15-21 is/are rejected.
- 7) ☒ Claim(s) 5-7, 12 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 5/10/05 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/10/05, 10/26/07</u> .                                       | 6) <input type="checkbox"/> Other: _____                          |

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With respect to each claim, the following language is vague and indefinite;

Claim 2- "grasping variation", 3 – "step to evaluate the performance", 4- "for grasping operating environment", "evaluate the operating specifications", 5- "specification decision step, in which specification of said motor are decided on", 6- "motor before an exchange", "to improve the performance of the product", 7- "before the exchange in driven", 9- "successively grasped", 10- "service contract for providing energy saving". 11- "deciding the specifications of a motor", "grasping operating environment", "a customer who has purchased or will purchase a motor", 13- "a customer who has purchased or will purchase a motor", "an efficiency grasping step in which the efficiency of a product is grasped from a variation" 15- "a service contract is concluded", "a customer who has purchased or will purchase a motor", "or the like", 16- "a service contract is concluded", "with different specifications", 17- "a customer who purchases a permanent magnet motor", "installed in said product", "with different specifications", 18- "a service contract is concluded", "a customer who has purchased or will purchase a motor", "in which a service contract is concluded", "with different specifications", 19- "a service contract is concluded", "a customer who has purchased or will purchase a

Art Unit: 2837

motor", "in which a service contract is concluded", "with different specifications", "energy saving price"

The following rejection is written in the examiner broadest reasonable interpretation of the claim language, under the circumstances.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 8-11, 13, 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al (5,739,650).

With respect to claim 1, Kimura teaches a method for providing an energy saving service (column 4, lines 50-59) comprising: a constant identification step (column 4, lines 65-67; column 5, lines 1-13) in which an inverter having an automatic tuning (column 6, lines 10-15) function for identifying a motor constant (column 4, lines 11-17) of a motor (fig. 7, 703) or a program of said inverter is provided to a user of said motor or a product with said motor, and a voltage is forcedly applied to said motor by using said provided inverter (fig. 7, 702) to identify said motor constant; and an inverter control step (column 5, lines 13-40) in which said inverter for driving said motor by said motor constant obtained in said constant identification step is controlled so as to operate at an

Art Unit: 2837

efficient operating point of said motor, wherein said motor being a synchronous machine is driven by said inverter, using said identified motor constant.

With respect to claim 2, Kimura teaches a wherein said motor is driven while grasping variation in a counter-electromotive voltage (column 4, lines 65-67; column 5, lines 1-13) constant obtained in said constant identification step.

With respect to claim 3, Kimura teaches a performance evaluation step (column 5, lines 45-67) in which said motor is driven by said motor constant obtained in said constant identification step to evaluate the performance of said motor, wherein a motor (fig. 7, 703) and an inverter (fig. 7, 702) selected on the basis of the evaluation result of the performance of said motor obtained in said performance evaluation step are used.

With respect to claim 4, Kimura teaches a method for providing an energy saving service (column 4, lines 50-59) according to further comprising: an operating specifications evaluation step (column 5, lines 13-67) in which said inverter for identifying the motor constant (column 4, lines 11-17) of said motor and a sample motor for grasping operating environment such as load torque of said product are provided for said user, and said sample motor installed in said product is driven by said inverter to evaluate the operating specifications of said product; and a specifications decision step (column 5, lines 15-28) in which the specifications of a motor to be used in said product are decided on the basis of an operating parameter extracted in said operating specifications evaluation step.

With respect to claim 8, Kimura teaches wherein said motor is driven by said inverter by position sensor-less (fig. 69, 602, 603).

With respect to claim 9, Kimura teaches wherein the inverter having the automatic tuning function (column 6, lines 10-15) for identifying the motor constant of said motor or the program of the inverter drives said motor, and the efficiency of said motor is successively grasped by said motor constant identified during operation.

With respect to claim 10, Kimura teaches wherein said inverter having the automatic tuning function (column 6, lines 10-15) for identifying the motor constant of said motor or the program of the inverter is provided at the start of a service contract for providing energy saving.

With respect to claim 11, Kimura teaches an operating specifications evaluation step (column 5, lines 13-67) in which a driving device for identifying a motor constant (column 4, lines 11-17) of a motor and a sample motor (fig. 7, 703) for grasping operating environment are provided for a customer who has purchased or will purchase a motor, and said sample motor installed in a product is driven by said driving device to evaluate operating specifications; and a specifications decision step (column 5, lines 15-28) in which the specifications of the motor to be supplied are decided on the basis of an operating parameter extracted in said operating specifications evaluation step.

With respect to claim 13, Kimura teaches an operating specifications evaluation step (column 5, lines 13-67) in which a driving device for identifying a motor constant (column 4, lines 11-17) of a permanent magnet motor (fig. 7, 703) is provided for a

Art Unit: 2837

customer who has purchased or will purchase a compressor (column 1, line 65) with said permanent magnet motor, and said driving device drives said permanent magnet motor installed in said compressor to extract a motor constant of said permanent magnet motor such as a counter-electromotive voltage constant (column 3, lines 65-66); an efficiency grasping (column 8, lines 1-40) step in which the efficiency of a product is grasped from variation in said motor constant of said permanent magnet motor obtained in said operating specifications evaluation step, said compressor with said permanent magnet motor being installed in said product; and an efficiency reduction report step (column 8, lines 65-67; column 9, lines 1-12) in which an efficiency improvement measure such as the timing (fig. 20, SP5-6) of exchanging said compressor is reported, when the efficiency of said product obtained in said efficiency grasping step is reduced.

With respect to claim 15, Kimura teaches a method for providing an energy saving service (column 4, lines 50-59) using a driving device of a permanent magnet motor (fig. 7, 703) comprising: a service contract conclusion step (column 11, lines 33-43) in which a service contract is concluded with a customer who has purchased or will purchase a product with a permanent magnet motor; a driving device provision step in which a driving device which can drive any permanent magnet motor with different specifications is provided on the basis of said service contract; and a product upgrade step in which said driving device controls the drive of said permanent magnet motor so as to improve the performance of the product with said permanent magnet motor, to upgrade the product (column 6, lines 10-15) with said permanent magnet motor.

Art Unit: 2837

With respect to claim 16, Kimura teaches a method for providing an energy saving service (column 4, lines 50-59) using a driving device of a permanent magnet motor (fig. 7, 703) comprising: a service contract conclusion step (column 11, lines 33-43) in which a service contract is concluded with a customer who has purchased or will purchase a product with a permanent magnet motor; a driving device provision step (column 4, lines 65-67, column 5, lines 1-12) in which a driving device which can drive any permanent magnet motor with different specifications is provided on the basis of said service contract; and a motor supply step in which the driving device provided in said driving device provision step drives a plurality of permanent magnet motors having different specifications, and a motor to be supplied is determined on the basis of the evaluation results of the performance of products by the identical driving device.

With respect to claim 17, Kimura teaches a method for providing an energy saving service (column 4, lines 50-59) using a driving device of a permanent magnet motor comprising: a driving device provision step in which a driving device of a permanent magnet motor (fig. 7, 703) which can drive any permanent magnet motor with different specifications by identifying a motor constant (column 4, lines 11-17) is provided for a customer who purchases a permanent magnet motor to manufacture a product with said permanent magnet motor; and a motor provision step (column 4, lines 65-67, column 5, lines 1-12) in which said driving device drives said permanent magnet motor installed in said product, to provide a permanent magnet motor coinciding with product specifications required by said customer.



With respect to claim 18, Kimura teaches a method for providing an energy saving service (column 4, lines 50-59) using a driving device of a permanent magnet motor (fig. 7, 703) comprising: a service contract conclusion step (column 11, lines 33-43) in which a service contract is concluded with a customer who has purchased or will purchase a product with a permanent magnet motor ; a driving device provision step (column 4, lines 65-67, column 5, lines 1-12) in which a driving device which can drive any permanent magnet motor with different specifications by identifying a motor constant is provided on the basis of said service contract; and a motor specifications decision step (column 5, lines 15-28) in which the specifications of a motor to be supplied is decided on the basis of the evaluation results of the performance of said product, said driving device provided in said driving device provision step driving said permanent magnet motor in said product.

With respect to claim 19, Kimura teaches a method for providing an energy saving service (column 4, lines 50-59) using a driving device of a permanent magnet motor (fig. 7, 703) comprising: a service contract conclusion step (column 11, lines 33-43) in which a service contract is concluded with a customer who has purchased or will purchase a product with a permanent magnet motor; a driving device provision step (column 4, lines 65-67, column 5, lines 1-12) in which a driving device which can drive any permanent magnet motor with different specifications is provided on the basis of said service contract; and a motor specifications decision step (column 5, lines 15-28) in which the specifications of a motor to be supplied to said customer are decided on the basis of the evaluation results of the performance of said product, the driving device (fig.

Art Unit: 2837

9, 920, 912) provided in said driving device provision step driving said permanent magnet motor in said product, wherein an energy saving price corresponding to saving in electric power consumption (column 7, lines 50-59) is calculated on the basis of difference between power consumption data in the case of using the permanent magnet motor decided in said motor specifications decision step and current power consumption data, and said energy saving price is reflected on a charge for the provision of said driving device and said permanent magnet motor.

With respect to claim 20, Kimura teaches an operating specifications evaluation step (column 5, lines 13-67) in which when a motor-driven old compressor used in a (column 1, 65) refrigeration cycle is exchanged for a new compressor, an inverter (fig. 7, 702) for identifying a motor constant of a synchronous motor (fig. 7, 703) with different specifications installed in an alternative compressor is provided together with said alternative compressor, and said inverter drives said synchronous motor installed in said alternative compressor to operate said refrigeration cycle, thereby extracting a motor constant (column 4, lines 11-17) of said synchronous motor such as a counter-electromotive voltage constant; and a step of operating said refrigeration cycle in which said inverter drives said alternative compressor by use of the motor constant of said synchronous motor obtained in said operating specifications evaluation step, wherein said alternative compressor is used in an emergency measure until said new compressor is used.

With respect to claim 21, Kimura teaches a freezing/air conditioning (column, 1, lines 65) device comprising: a permanent magnet motor (fig. 7, 703) operated at

Art Unit: 2837

variable speed by an inverter (fig. 7, 702) having an automatic tuning function (column 6, lines 10-15) or a program of the inverter, the inverter being able to identify a motor constant (column 4, lines 11-17) of a motor; a compressor driven by said permanent magnet motor, for discharging a refrigerant circulating through a refrigeration cycle; and a monitor device for monitoring performance such as the range of output (fig. 20, SP8) or reduction in efficiency by grasping said motor constant identified during operation.

***Allowable Subject Matter***

Claims 5-7, 12, 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick Glass whose telephone number is (571)272-8395. The examiner can normally be reached on 9-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Benson can be reached on 571-272-2227. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2837

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Erick Glass/  
Examiner, Art Unit 2837

/Walter Benson/  
Supervisory Patent Examiner, Art Unit 2837